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# Vaccine Hesitancy: A Global perspective

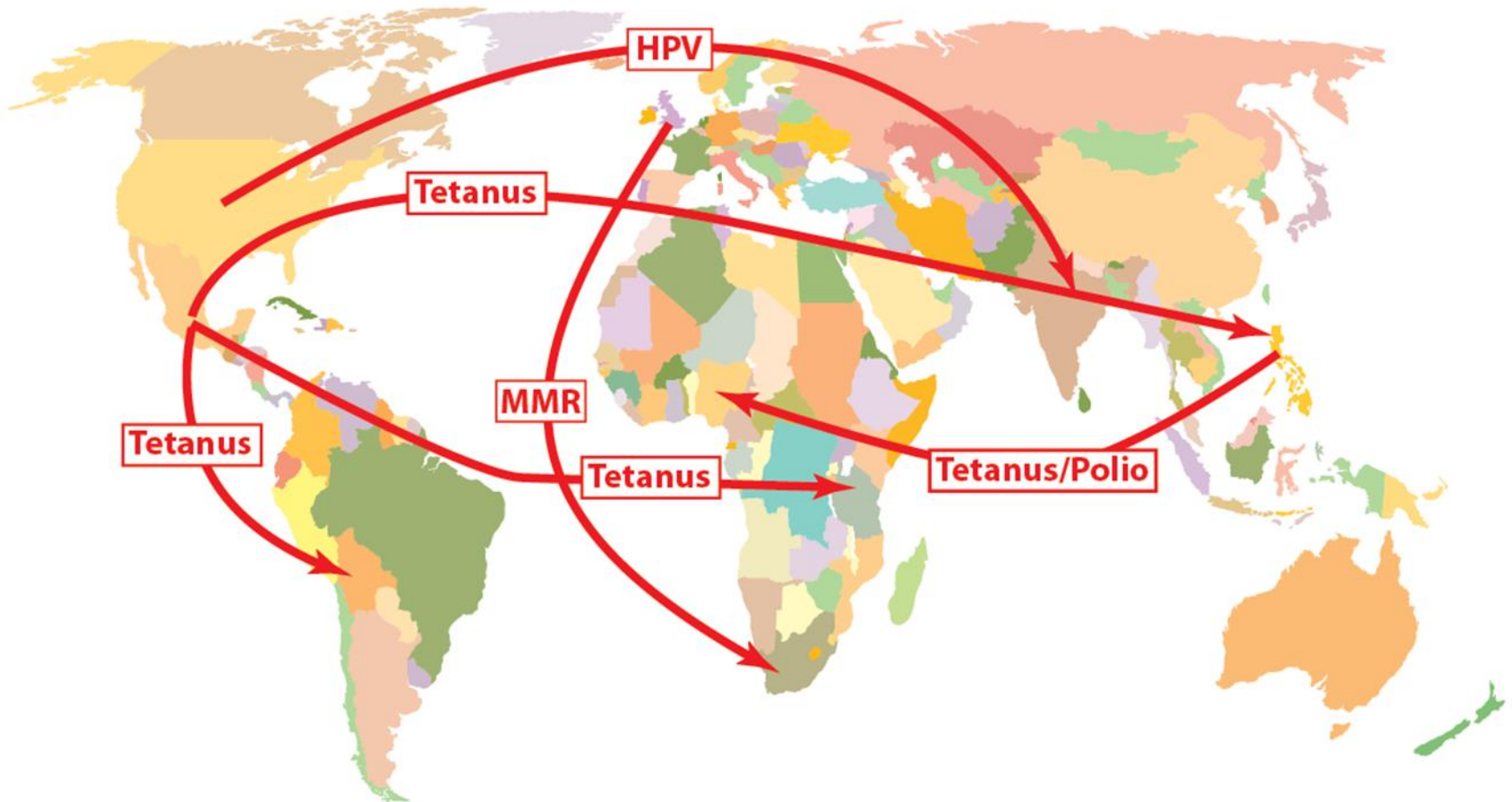
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The Vaccine Confidence Project

London School of Hygiene and Tropical Medicine

NVAC, 12 September 2012

# Globalization of vaccine hesitancy



# Thimerosal: from US fears to a global concern

## consultation on vaccines in preparation for global mercury treaty

### Costs, storage and waste

- World thiomersal production is about 2,500 kg, 64% of which goes to vaccines, possibly from one single producer
- Development costs and time are substantial and the increased storage volume requirements are of the order of a 2 to 3-fold
- Waste management implications are of the order of a tripling of impact.
- Cheaper vaccines have a disproportionately greater impact

- A shift to preservative-free vaccines would have major implications including:
  - Multi-fold increases in costs of vaccines, storage and waste
  - Potential disruptions to supply of vaccines
  - Other operational disruption with potential for fewer children vaccinated
- Need for multi-dose formulations will continue
  - Strengthen support for current preservative supply
  - ? Continue long-term search for alternative preservatives as part of 'due diligence' in light of anticipated increased regulation of thiomersal

- **Communications are important** and need careful coordination to emphasize
  - Country and agency concerns expressed in this meeting
  - Work for a unified position rather than country by country
  - That the position on safety of Thiomersal remains unchanged, although monitoring will continue
  - Removing Thiomersal could have major negative impact on vaccine supply and global public health



# From fringe to mainstream

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Understanding and Addressing Vaccine Hesitancy  
Tuesday, December 20, 2011; 12:00-1:00pm (Pacific)

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**Addressing Vaccine Hesitancy**  
To learn more about the growing problem of vaccine hesitancy, [read the post](#) from MCHIP's Robert Steinglass, originally published on the TechNet21 website. Steinglass discusses the problem in developed countries, and its potential to become a problem in the developing world.



14:30 – 16:00

Salon 10 (Meeting Level)

## PLANNED SESSION – CPHA

### Should We Sound the Alarm? Exploring Global and Canadian Trends in Vaccination Hesitancy and Avoidance

A major issue in vaccinology today is the significant reversal of public opinion about vaccines, as broad acceptance is giving way to increasing concerns over safety and effectiveness. Often described as one of the greatest public health interventions, vaccines are losing public confidence both in Canada and globally. What are we seeing in the field? The speakers will present data and case studies on current trends in vaccine hesitancy and avoidance, and discuss the impact the decline in vaccine rates is having on the ability of public health to control vaccine-preventable diseases. Participants will exchange their experiences from the field and relay some of the vaccine-related concerns and questions they hear from Canadians. Suggestions will be sought on how to bridge the gap between the current levels of public confidence in vaccines and the levels of trust needed to ensure adequate and sustained vaccine coverage.

#### Learning Objectives:

- ◆ Understand drivers behind vaccine hesitancy and avoidance
- ◆ Explore similarities and differences

#### Speakers:

- ◆ Marnie Davidson, Program Director
- ◆ Judy MacDonald, Medical Officer
- ◆ Terry-Nan Tannenbaum, Deputy Director

#### Moderator:

- ◆ Susan Bowles, Chair, Canadian Coalition for Immunization Awareness & Promotion

Pediatrics | Primary Care | Infectious Disease |

## IDSA 2011: Dealing with Vaccine Hesitancy and Avoidance [Podcast]

# Decade of Vaccines (DoV)



DECADE *of* VACCINES  
COLLABORATION

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## CONSULTATION

**CONSULTATION FEEDBACK**

The DoV Collaboration held approximately 20 consultations in Asia, Africa, Americas, Europe, Middle East and Western Pacific regions as well as an online consultation. More than 1,100 people from 142 countries and 297 organizations provided input as part of the consultation process to develop the

**OUR VISION**

*The vision for the DoV is a world in which all individuals and communities enjoy lives free from vaccine-preventable diseases. Its mission is to extend, by 2020 and beyond, the full benefits of immunization to all people, regardless of where they are born, who they are, or where they live.*

*Vaccine hesitancy:* Health care workers and other immunization champions feel unprepared to address misguided criticism of vaccines and immunization. Research is needed to understand the factors that contribute to vaccine hesitancy and training is needed to enable programme managers and champions to proactively address these factors. The impact and use of social media needs to be understood in this context.



# Decade of vaccines (DoV)

## Global Vaccine Action Plan



World Health  
Organization

SIXTY-FIFTH WORLD HEALTH ASSEMBLY  
Provisional agenda item 13.12

A65/22  
11 May 2012

### **Draft global vaccine action plan**

(ii) **Individuals and communities understand the value of vaccines and demand immunization as both their right and responsibility.** Progress towards increased understanding and demand can be evaluated by monitoring the level of public trust in immunization, measured by surveys on knowledge, attitudes, beliefs and practices.<sup>1</sup>

(iii) **The benefits of immunization are equitably extended to all people.** Progress towards greater equity can be evaluated by monitoring the percentage of districts with less than 80% coverage with three doses of diphtheria-tetanus-pertussis-containing vaccine and coverage gaps between lowest and highest wealth quintile (or another appropriate equity indicator).

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<sup>1</sup> The Strategic Advisory Group of Experts working group on vaccine hesitancy will develop a definition of vaccine hesitancy and recommend specific questions from surveys (either existing or new) to fully formulate this indicator.

# SAGE working group on (dealing with) vaccine hesitancy

## *Terms of Reference:*

Prepare for a SAGE review and **advice on how to address vaccine hesitancy** and its determinants.

**Define vaccine hesitancy** and its scope

Undertake a review of vaccine hesitancy in different settings including its **context-specific causes, its expression and its impact**.

Suggest one or several **indicator(s) of vaccine hesitancy** that could be used to monitor progress in the context of the Decade of Vaccines Global vaccine Action Plan.

*At global, regional and national levels:*

- Perform a **landscape analysis** of who/what organizations are working on this issue

- Identify activities and strategies that could have a positive impact

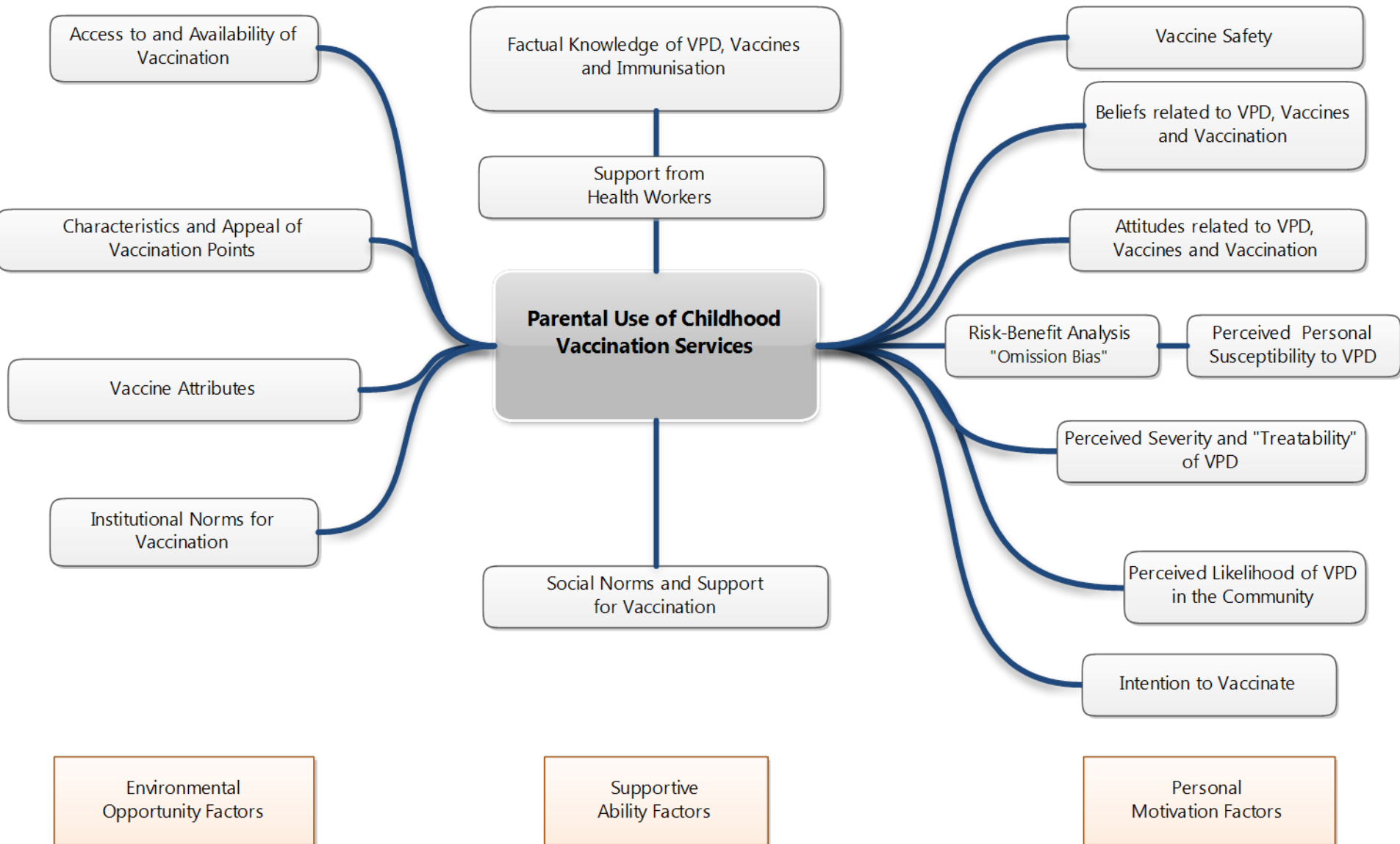
- Identify strategies and activities that did not work well;

- Prioritize existing and new activities/strategies based on an assessment of their potential impact;

- Outline the specific role of WHO in addressing vaccine hesitancy;

- Identify the specific role of regional and country advisory committees.

# Reviewing of various models





# Developing a model to analyse drivers of vaccine hesitancy

<i>Contextual/ group influences</i>	<i>Vaccine specific issues</i>	<i>Individual beliefs/ perceptions</i>
Socio-economic	History of AEFI (eg. Rotavirus and intussusceptions)	Individual experience with past vaccination
Religious/cultural	Risk/benefit	Risk/benefit (individual perceived)
Politics/policies (eg. mandates)	Vaccination schedule (evidence based, relevant to context)	Preference to separate, delay vaccines due to perceptions of overload
Immunisation is a social norm vs. immunization is not needed/harmful	Mode of administration (oral/nasal/syringe)	Personal experience (good/unpleasant/bad) with health system and health provider
	Mode of delivery: Routine/health centre-based; campaign; door-to-door	Individual knowledge/awareness of why/where/what/when vaccines are needed

# Database

## Launched in May 2010

Create	Search	Maintenance	Submit	Clear	Find Now
Search Term:		This will search: Report in Full, Report Title, and Summary. Use double quotes to enclose "exact" searches.			
Date From:		Calendar	Date To:	Calendar	
Data Category:		Beliefs - Philosophical Beliefs - Religious Beliefs - Socio-Cultural Conflict/War Contamination	Vaccine:	Afluria Agriflu Anflu Celvapan Cervarix	
Blank: <input type="checkbox"/>			Blank: <input type="checkbox"/>		
Report Referring to:					
National Source:	International Source:	Source of Unknown Location:	High Profile Individual:		
Report Source Category:	Internet - Audio Internet - Blog Internet - Video Letter Newspaper	Disease:	HIV HPV Influenza Japanese Encephalitis Lassa Hemorrhagic Fever		
Blank: <input type="checkbox"/>		Blank: <input type="checkbox"/>			
No. of Adverse Events:					
Collection Method:		Foreign Language:			
Manufacturer:	Novartis Novovax Okairos Panacea Biotec Pfizer	Country:	Afghanistan Albania Algeria American Samoa Andorra		
Blank: <input type="checkbox"/>		Blank: <input type="checkbox"/>			
Report Content:		Report Priority Level:			

# Data categories of Public Concern

## Additives

**AEFI (Autism, Death, Other,  
Paralysis,**

**Rash/Fever, Seizures)**

**Awareness/Lack of info**

**Beliefs (Philosophical,  
Religious,**

**Socio-Cultural)**

**Conflict/War**

**Contamination**

**Cost**

**Disease Burden**

**Drop Outs**

**Fertility**

**Marginalised Populations**

## Mass Campaign

**Motives (Business, Political)**

**New Product**

**Outbreaks**

**Policy/Recommendation**

**Programmatic Error**

**Research**

**Risk/Benefit**

**Strategy**

**Supply**

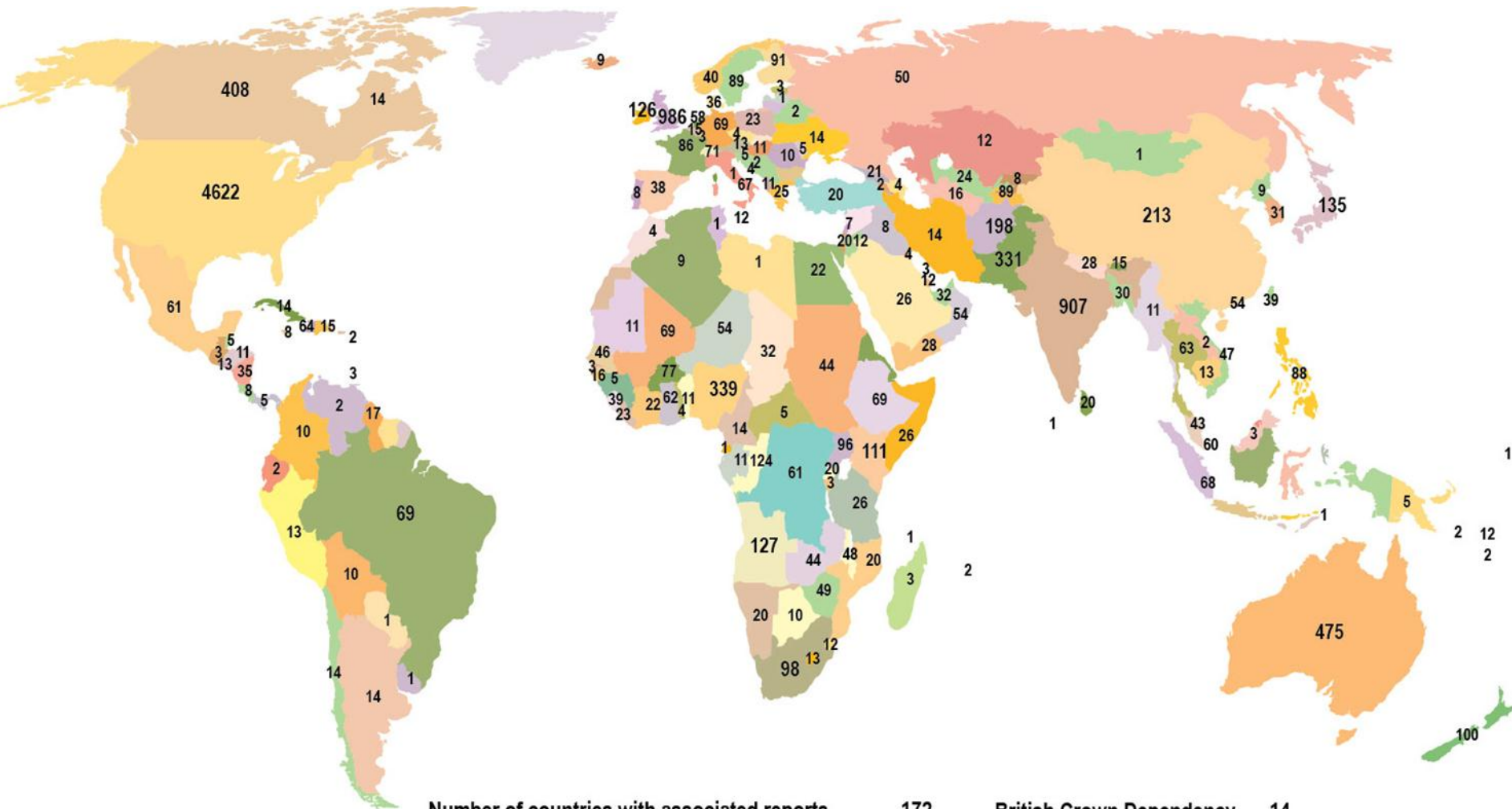
**Tampering**

**Vaccine Refusals**

**Vaccine Schedule**

# Reports globally

(Updated 4<sup>th</sup> February 2011)



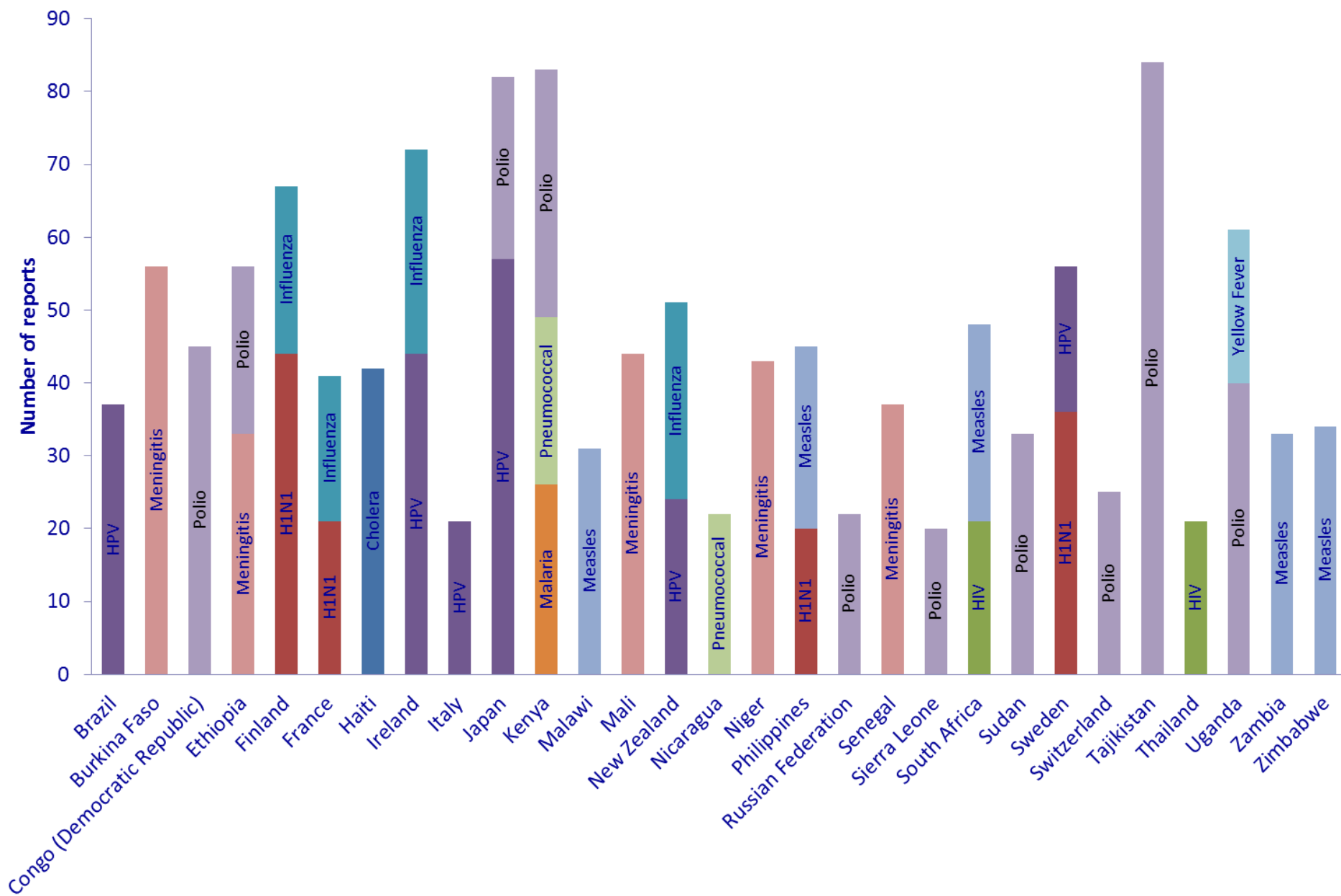
Number of countries with associated reports 172  
 Number of reports with no country mentioned 994

Total number of reports 10,417  
 Sum of reports 12,831  
 Average number of countries  
 mentioned by report 1.2

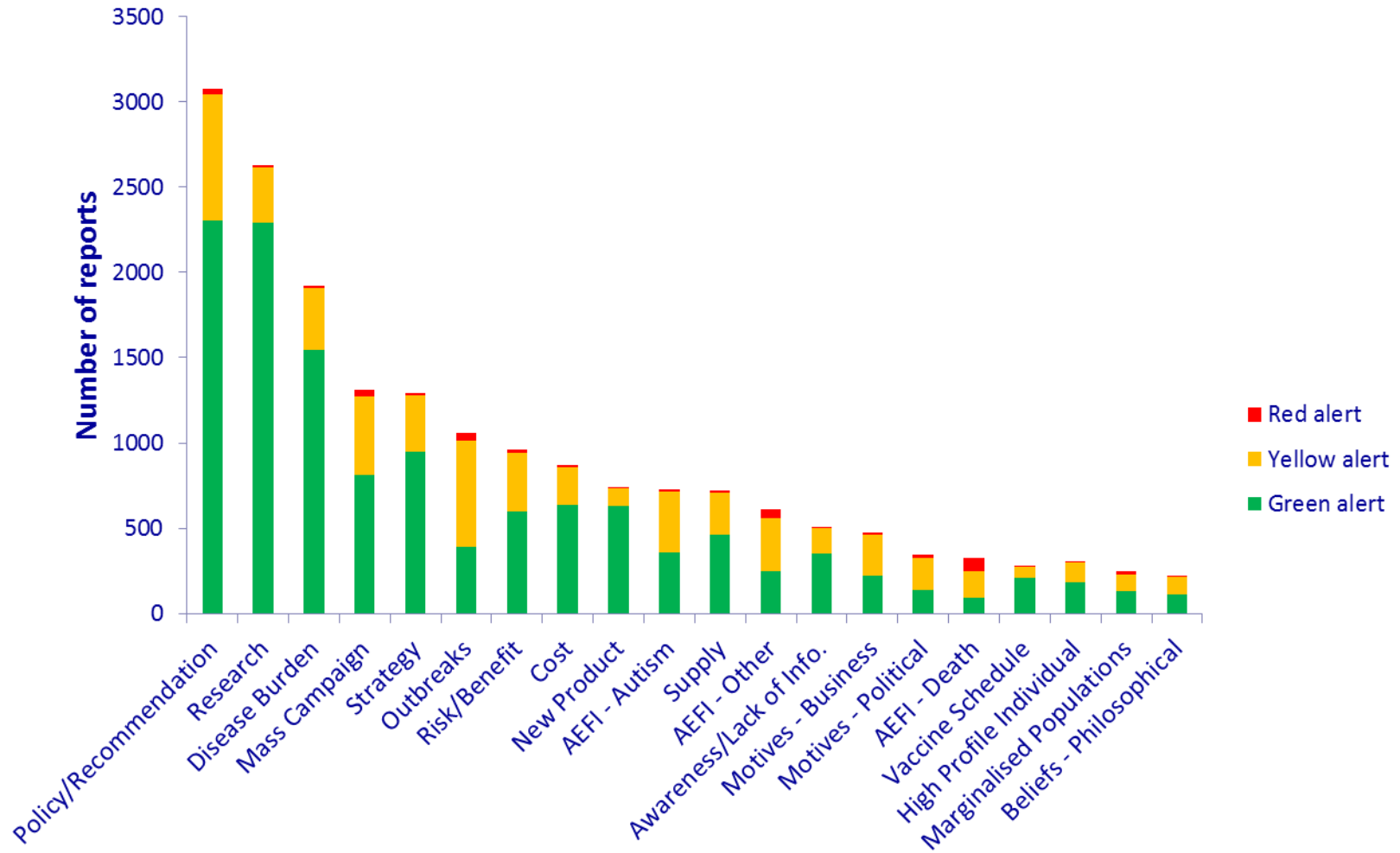
British Crown Dependency 14  
 British Overseas Territory 9  
 French Overseas Territory 86  
 Netherlands Overseas Territory 1  
 US Overseas Territory 11



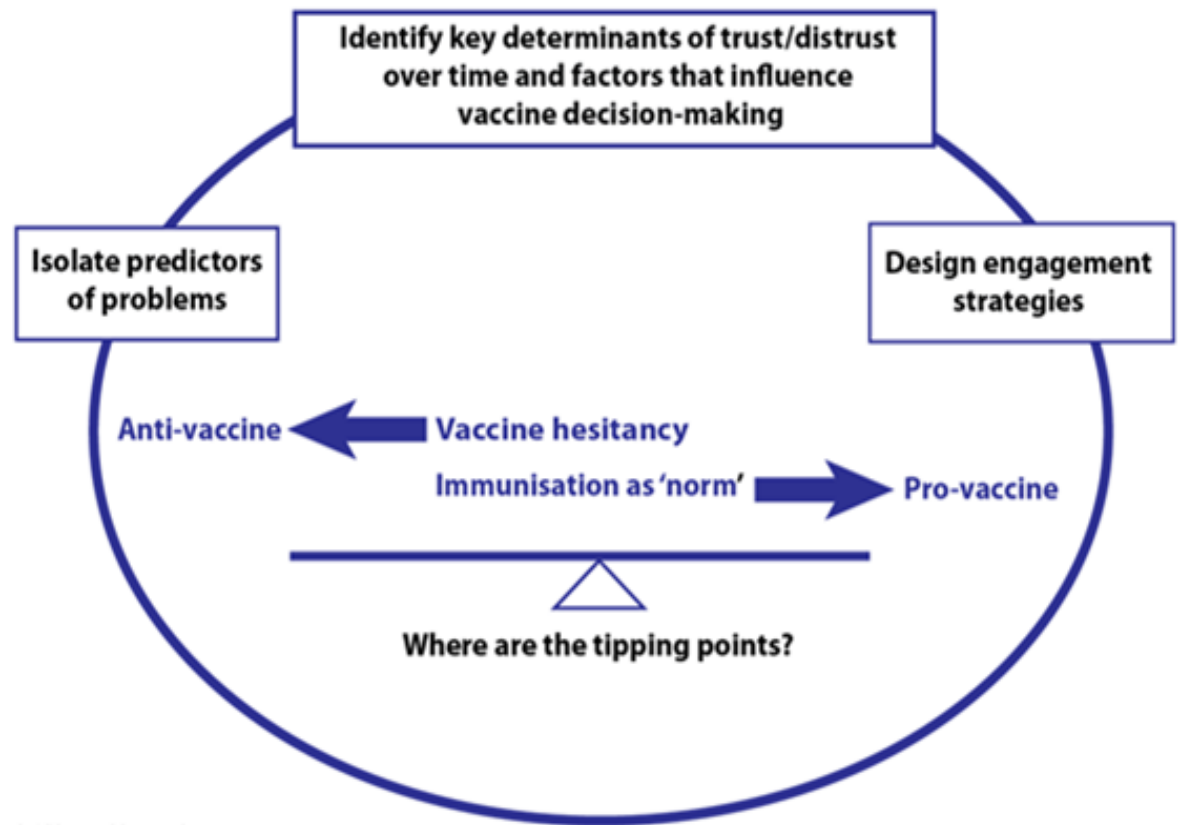
# Reports by vaccine-preventable disease



# Report data categories



# Understanding the gap to address it



**Opportunity Factors**

**Ability Factors**


**Motivational Factors**

# Developing a Vaccine Confidence Index (VCI)

<http://www.vaccineconfidence.org/>Vaccine Confidence

## The Vaccine Confidence Project

monitoring public confidence in immunisation programmes



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### About the VCI

The team at LSHTM is developing a Vaccine Confidence Index (VCI) to gauge public confidence with respect to a vaccine or vaccines within a given geographical region or country. The VCI is a quantitative representation of the myriad factors which influence or determine confidence. The VCI distinguishes confidence from the other factors which affect the vaccine take up such as supply and infrastructure. Consequently, the VCI is indicative of public concern in that it is a representation of the aggregate decision making process of a population who might accept or refuse vaccination.

To construct and calculate the VCI, we integrate multiple data streams spanning diverse temporal and geographical resolutions. These include (but are not limited to) survey, coverage, sociopolitical metrics and real-time media surveillance. We can utilise historic (e.g. survey or coverage) data to calibrate available fast moving (e.g. media) data streams to use the latter when the former is unavailable. This is typically the case at the (fine) spatial resolutions of interested. Additionally, we require up-to-date measures of confidence for which the timescales associated with coverage data are incompatible.

The VCI will be an aid to immunization programmes at both design and execution levels for new and routine vaccines, directing more explicitly where to target both human and financial resources. We expect the index to provide an early warning signal of areas of decreased confidence where public concern could potentially disrupt an immunization programme. Through further analysis and identification of the contributing factors to public concern, we expect the VCI to provide guidance for early response strategies (such as public engagement) to ensure sustained confidence in vaccines and immunization.